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File 1:ERIC 1966-2003/Nov 05
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Set Items Description
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Cost is in DialUnits
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05nov03 14:50:29 User208669 Session D2413.1
$0.29 0.082 DialUnits File1
$0.29 Estimated cost File1
$0.01 TELNET
$0.30 Estimated cost this search
$0.30 Estimated total session cost 0.082 DialUnits

File 5:Biosis Previews(R) 1969-2003/Nov W1
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See HELP NEWS005 for more information.

Set Items Description
--- ----- -----------
? s baculo? or polyhedros? or npv
11774 BACULO?
4310 POLYHEDROS?
1472 NPV
S1 13528 BACULO? OR POLYHEDROS? OR NPV
? s envelope or enveloped
30336 ENVELOPE
3170 ENVELOPED
S2 32976 ENVELOPE OR ENVELOPED
? s s1 and s2
13528 S1
32976 S2
S3 625 S1 AND S2

? t s3/6/1-10

3/6/1
0014550413 BIOSIS NO.: 200300505441
Generation of chimeric baculovirus with histidine-tags displayed on the envelope and its purification using immobilized metal affinity chromatography.
2003

3/6/2
0014550412 BIOSIS NO.: 200300505440
Baculovirus-insect cell expression, purification, and immunological studies of the full-length Japanese encephalitis virus envelope protein.
2003

3/6/3
0014549000 BIOSIS NO.: 200300504028
Screening for T cell-eliciting proteins of Japanese encephalitis virus in a healthy JE-endemic human cohort using recombinant baculovirus-infected insect cell preparations.
2003

3/6/4
0014533833 BIOSIS NO.: 200300491490
In vitro and in vivo gene delivery by recombinant baculoviruses.
2003

3/6/5
0014476121 BIOSIS NO.: 200300430965
Identification of pif-2, a third conserved baculovirus gene required for per os infection of insects.
2003

3/6/6
0014466426 BIOSIS NO.: 200300435145
GP64-null baculoviruses pseudotyped with heterologous envelope proteins
2003

3/6/7
0014439798 BIOSIS NO.: 200300398228
Characterization of the gene encoding the envelope fusion glycoprotein GP64 from Bombyx mori nucleopolyhedrovirus.
2003

3/6/8
0014420599 BIOSIS NO.: 200300389318
Analysis of epidermal-type transglutaminase (transglutaminase 3) in human stratified epithelia and cultured keratinocytes using monoclonal antibodies.
2003

3/6/9
0014393544 BIOSIS NO.: 200300352263
Baculoviruses as vectors for gene therapy against human prostate cancer.
2003

3/6/10
0014378349 BIOSIS NO.: 200300335092
Comparative sequence analysis and predictions for the envelope glycoproteins of insect endogenous retroviruses.
2003
? s py>2001
S4 899003 PY>2001
? s s3 not s4
625 S3
899003 S4
S5 576 S3 NOT S4
? t s5/6/1-10

5/6/1
0013779004 BIOSIS NO.: 200200372515
Relatedness of baculovirus and gypsy retrotransposon envelope proteins
2001

5/6/2
0013545339 BIOSIS NO.: 200200138850
Recombinant hemagglutinin protein of rinderpest virus expressed in insect cells induces cytotoxic T-cell responses in cattle
2001

5/6/3
0013536831 BIOSIS NO.: 200200130342
Characterization of a baculovirus-encoded protein that is associated with infected-cell membranes and budded virions
2001

5/6/4
0013519632 BIOSIS NO.: 200200113143
Structural proteins of baculovirus and their functions
2001

5/6/5
0013507908 BIOSIS NO.: 200200101419
Sequence analysis of Helicoverpa armigera single-nucleocapsid nucleopolyhedrovirus odv-e66 gene
2001

5/6/6
0013507506 BIOSIS NO.: 200200101017
Development and characterization of monoclonal antibodies to subgroup J avian leukosis virus
2001

5/6/7
0013501861 BIOSIS NO.: 200200095372
Automatic classification of HITS into artifacts or solid or gaseous emboli by a wavelet representation combined with dual-gate TCD
2001

5/6/8
0013482072 BIOSIS NO.: 200200075583
Hepatocyte-specific gene expression by baculovirus pseudotyped with

vesicular stomatitis virus envelope glycoprotein
2001

5/6/9
0013479697 BIOSIS NO.: 200200073208
Identification and ultrastructural characterization of a novel virus from fish
2001

5/6/10
0013416032 BIOSIS NO.: 200200009543
The interferon alpha induced protein ISG12 is localized to the nuclear membrane
2001
? s pseudotyp?
S6 1223 PSEUDOTYP?
? s s5 and s6
576 S5
1223 S6
S7 3 S5 AND S6
? t s7/6/1-3

7/6/1
0013482072 BIOSIS NO.: 200200075583
Hepatocyte-specific gene expression by baculovirus pseudotyped with vesicular stomatitis virus envelope glycoprotein
2001

7/6/2
0013039977 BIOSIS NO.: 200100211816
A GP64-null baculovirus pseudotyped with vesicular stomatitis virus G protein
2001

7/6/3
0008935220 BIOSIS NO.: 199396099636
Mapping of B-neutralizing and T-helper cell epitopes on the bovine leukemia virus external glycoprotein gp51
1993
? t s7/7/1-3

7/7/1
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0013482072 BIOSIS NO.: 200200075583
Hepatocyte-specific gene expression by baculovirus pseudotyped with vesicular stomatitis virus envelope glycoprotein
AUTHOR: Park Seung-Won; Lee Ha-Kyu; Kim Tai-Gyu; Yoon Seung-Kew; Paik Soon-Young (Reprint)
AUTHOR ADDRESS: Department of Microbiology, College of Medicine, Catholic University of Korea, Seoul, 137-701, South Korea**South Korea
JOURNAL: Biochemical and Biophysical Research Communications 289 (2): p 444-450 November 30, 2001 2001
MEDIUM: print
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We have developed the recombinant baculovirus pseudotyped with vesicular stomatitis virus (VSV) G protein. The VSV-G gene was under the control of the polyhedrin promoter so that it was expressed at high levels in infected insect cells but not in mammalian cells. The presence of VSV-G protein in purified baculovirus preparations was confirmed by Western analysis. This recombinant baculovirus also carried human AFP (alpha-fetoprotein) promoter for hepatocyte-specific gene expression. After an in vitro infection by a recombinant baculovirus carrying the luciferase gene under the control of human AFP promoter/enhancer (BacG-AFP-Luc+), the luciferase gene was expressed in AFP-producing Huh7, Hep3B, and HepG2 cell lines, but not in AFP-nonproducing cell lines. BacG-AFP-Luc+ transduced with human hepatoma cells in vitro at an efficiency about fivefold greater than the recombinant baculovirus lacking VSV-G (the virus Bac-AFP-Luc+). The utilization of the AFP promoter/enhancer in a baculovirus vector could provide benefits in gene therapy applications.

7/7/2
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0013039977 BIOSIS NO.: 200100211816
A GP64-null baculovirus pseudotyped with vesicular stomatitis virus G protein
AUTHOR: Mangor J T; Monsma S A; Johnson M C; Blissard G W (Reprint)
AUTHOR ADDRESS: Boyce Thompson Institute at Cornell University, Tower Rd., Ithaca, NY, 14853, USA**USA
JOURNAL: Journal of Virology 75 (6): p2544-2556 March, 2001 2001
MEDIUM: print
ISSN: 0022-538X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The Autographa californica multiple nucleopolyhedrovirus (AcMNPV) GP64 protein is an essential virion protein that is involved in both receptor binding and membrane fusion during viral entry. Genetic studies have shown that GP64-null viruses are unable to move from cell to cell and this results from a defect in the assembly and production of budded virions (BV). To further examine requirements for virion budding, we asked whether a GP64-null baculovirus, vAc64-, could be pseudotyped by introducing a heterologous viral envelope protein (vesicular stomatitis virus G protein (VSV-G)) into its membrane and whether the resulting virus was infectious. To address this question, we generated a stably transfected insect Sf9 cell line (Sf9VSV-G) that inducibly expresses the VSV-G protein upon infection with AcMNPV Sf9VSV-G and Sf9 cells were infected with vAc64-, and cells were monitored for infection and for movement of infection from cell to cell. vAc64- formed plaques on Sf9VSV-G cells but not on Sf9 cells, and plaques formed on Sf9VSV-G cells were observed only after prolonged intervals. Passage and amplification of vAc64- on Sf9VSV-G cells resulted in pseudotyped virus particles that contained the VSV-G protein. Cell-to-cell propagation of vAc64- in the G-expressing cells was delayed in comparison to wild-type (wt) AcMNPV, and growth curves showed that pseudotyped vAc64- was generated at titers of approximately 106 to 107 infectious units (IU)/ml, compared with titers of approximately 108 IU/ml for wt AcMNPV. Propagation and amplification of pseudotyped vAc64- virions in Sf9VSV-G cells suggests that the VSV-G protein may either possess the signals necessary for baculovirus BV assembly and budding at the cell surface or may otherwise facilitate production of infectious baculovirus virions. The functional complementation of GP64-null viruses by VSV-G protein was further demonstrated by identification of a vAc64--derived virus that had acquired the G gene through recombination with Sf9VSV-G cellular DNA.

GP64-null viruses expressing the VSV-G gene were capable of productive infection, replication, and propagation in Sf9 cells.

7/7/3
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0008935220 BIOSIS NO.: 199396099636
Mapping of B-neutralizing and T-helper cell epitopes on the bovine leukemia virus external glycoprotein gp51
AUTHOR: Callebaut Isabelle; Voneche Veronique; Mager Anna; Fumiere Olivier; Krchnak Viktor; Merza Malik; Zavada Jan; Mammerickx Marc; Burny Arsene; Portetelle Daniel (Reprint)
AUTHOR ADDRESS: Mol. Biol. and Anim. Physiol. Unit, Fac. Agronomy, 5030 Gembloux, Belgium**Belgium
JOURNAL: Journal of Virology 67 (9): p5321-5327 1993
ISSN: 0022-538X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A battery of 19 synthetic peptides was used to characterize efficient neutralizing and helper T-cell epitopes on the bovine leukemia virus (BLV) external envelope glycoprotein gp51. Four of the antipeptide antisera raised in rabbits inhibited the formation of BLV-induced syncytia; these antisera are directed against peptides 64-73, 98-117, and 177-192. Only antisera directed against the 177-192 region also neutralized vesicular stomatitis virus-BLV pseudotypes. This study clearly demonstrates that neutralizing properties can be observed with antibodies raised to regions undescribed so far and included in both the amino-terminal and central parts of the antigen. In addition, some helper T-cell determinants were defined from gp51-immunized mice and from BLV-infected cattle. Although none of the peptides tested behaved as a universal helper T-cell epitope, peptide 98-117 stimulated T-cell proliferation from BALB/c mice and from three infected cows, while peptide 169-188 strongly stimulated T-cell proliferation from one infected cow. Further experiments performed with three peptides overlapping the 169-188 region (177-192, 179-192, 181-192) demonstrated the particular relevance of residue(s) P-177 and/or D-178 in the helper T-cell epitope. These data should assist in the design of an efficient subunit vaccine against BLV infection that contains peptides possessing both B-neutralizing and helper T-cell determinants.
? ds

Set	Items	Description
S1	13528	BACULO? OR POLYHEDROS? OR NPV
S2	32976	ENVELOPE OR ENVELOPED
S3	625	S1 AND S2
S4	899003	PY>2001
S5	576	S3 NOT S4
S6	1223	PSEUDOTYP?
S7	3	S5 AND S6

? s virion or virions
8728 VIRION
9374 VIRIONS
S8 15465 VIRION OR VIRIONS
? s s5 and s8
576 S5
15465 S8
S9 165 S5 AND S8
? t s9/6/1-10

9/6/1

0013536831 BIOSIS NO.: 200200130342
Characterization of a baculovirus-encoded protein that is associated with infected-cell membranes and budded virions
2001

9/6/2
0013507908 BIOSIS NO.: 200200101419
Sequence analysis of Helicoverpa armigera single-nucleocapsid nucleopolyhedrovirus odv-e66 gene
2001

9/6/3
0013479697 BIOSIS NO.: 200200073208
Identification and ultrastructural characterization of a novel virus from fish
2001

9/6/4
0013354625 BIOSIS NO.: 200100526464
Genome sequence of a baculovirus pathogenic for Culex nigripalpus
2001

9/6/5
0013272201 BIOSIS NO.: 200100444040
Characterization of Autographa californica nucleopolyhedrovirus infection in cell lines from Bombyx mori
2001

9/6/6
0013271954 BIOSIS NO.: 200100443793
Nonenveloped nucleocapsids of hepatitis C virus in the serum of infected patients
2001

9/6/7
0013236764 BIOSIS NO.: 200100408603
Human herpesvirus 8 envelope glycoprotein K8.1A interaction with the target cells involves heparan sulfate
2001

9/6/8
0013188215 BIOSIS NO.: 200100360054
White spot syndrome virus envelope protein VP28 is involved in the systemic infection of shrimp
2001

9/6/9
0013039977 BIOSIS NO.: 200100211816
A GP64-null baculovirus pseudotyped with vesicular stomatitis virus G protein
2001

9/6/10
0012968713 BIOSIS NO.: 200100140552
Morphological and molecular evidence that Culex nigripalpus baculovirus is

an unusual member of the family Baculoviridae
2001
? s recombinant? or vector?
172434 RECOMBINANT?
176386 VECTOR?
S10 327519 RECOMBINANT? OR VECTOR?
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Set Items Description
S1 13528 BACULO? OR POLYHEDROS? OR NPV
S2 32976 ENVELOPE OR ENVELOPED
S3 625 S1 AND S2
S4 899003 PY>2001
S5 576 S3 NOT S4
S6 1223 PSEUDOTYP?
S7 3 S5 AND S6
S8 15465 VIRION OR VIRIONS
S9 165 S5 AND S8
S10 327519 RECOMBINANT? OR VECTOR?
? s s9 and s10
165 S9
327519 S10
S11 35 S9 AND S10
? t s11/6/1-35

11/6/1
0013271954 BIOSIS NO.: 200100443793
Nonenveloped nucleocapsids of hepatitis C virus in the serum of infected patients
2001

11/6/2
0013188215 BIOSIS NO.: 200100360054
White spot syndrome virus envelope protein VP28 is involved in the systemic infection of shrimp
2001

11/6/3
0012968713 BIOSIS NO.: 200100140552
Morphological and molecular evidence that Culex nigripalpus baculovirus is an unusual member of the family Baculoviridae
2001

11/6/4
0012657999 BIOSIS NO.: 200000376312
Large conformational changes in the maturation of a simple RNA virus, Nudaurelia capensis omega virus (NomegaV)
2000

11/6/5
0012411289 BIOSIS NO.: 200000129602
Identification of two major virion protein genes of White Spot Syndrome Virus of shrimp
2000

11/6/6
0012358916 BIOSIS NO.: 200000077229
A cell-line-specific defect in the intracellular transport and release of assembled retroviral capsids

2000

11/6/7
0012332315 BIOSIS NO.: 200000050628
Hepatitis C virus-like particles synthesized in insect cells as a potential vaccine candidate
1999

11/6/8
0012068967 BIOSIS NO.: 199900328627
Host cell receptor binding by baculovirus GP64 and kinetics of virion entry
1999

11/6/9
0011935352 BIOSIS NO.: 199900195012
Requirement for GP64 to drive efficient budding of Autographa californica multicapsid nucleopolyhedrovirus
1999

11/6/10
0011916443 BIOSIS NO.: 199900176103
Development of a Western blot assay for detection of bovine immunodeficiency-like virus using capsid and transmembrane envelope proteins expressed from recombinant baculovirus
1999

11/6/11
0011687433 BIOSIS NO.: 199800481680
Hepatitis B virus replication in human HepG2 cells mediated by hepatitis B virus recombinant baculovirus
1998

11/6/12
0011441868 BIOSIS NO.: 199800236115
Hepatitis C virus structural proteins assemble into viruslike particles in insect cells
1998

11/6/13
0011326394 BIOSIS NO.: 199800120641
Polyhedron-like inclusion body formation by a mutant nucleopolyhedrovirus expressing the granulin gene from a granulovirus
1998

11/6/14
0011248455 BIOSIS NO.: 199800042702
Analysis of p74, a PDV envelope protein of Autographa californica nucleopolyhedrovirus required for occlusion body infectivity in vivo
1997

11/6/15
0011216044 BIOSIS NO.: 199800010291
Analysis of a recombinant dengue-2 virus-dengue-3 virus hybrid envelope protein expressed in a secretory baculovirus system
1997

11/6/16
0011152350 BIOSIS NO.: 199799786410
Baculoviral display of the green fluorescent protein and rubella virus envelope proteins
1997

11/6/17
0011032967 BIOSIS NO.: 199799667027
Varicella-zoster virus glycoproteins E and I expressed in insect cells form a heterodimer that requires the N-terminal domain of glycoprotein I
1997

11/6/18
0010986468 BIOSIS NO.: 199799620528
Characterization of a novel third member of the human cytomegalovirus glycoprotein H-glycoprotein L complex
1997

11/6/19
0010924102 BIOSIS NO.: 199799558162
A mathematical model of the trafficking of acid-dependent enveloped viruses: Applied to the binding, uptake, and nuclear accumulation of baculovirus
1997

11/6/20
0010655743 BIOSIS NO.: 199799289803
Identification of the human cytomegalovirus G protein-coupled receptor homologue encoded by UL33 in infected cells and enveloped virus particles
1996

11/6/21
0010455210 BIOSIS NO.: 199699089270
The GP64 envelope fusion protein is an essential baculovirus protein required for cell-to-cell transmission of infection
1996

11/6/22
0010050871 BIOSIS NO.: 199598518704
Nucleocapsid- and virus-like particles assemble in cells infected with recombinant baculoviruses or vaccinia viruses expressing the M and the S segments of Hantaan virus
1995

11/6/23
0010040834 BIOSIS NO.: 199598508667
Identification of the membrane protein of porcine epidemic diarrhea virus
1995

11/6/24
0009890063 BIOSIS NO.: 199598357896
Yellow-head virus of Penaeus monodon is an RNA virus
1995

11/6/25
0009297501 BIOSIS NO.: 199497318786
Immunization of monkeys with baculovirus-dengue type-4 recombinants containing envelope and nonstructural proteins: Evidence of priming and partial protection
1994

11/6/26
0009211589 BIOSIS NO.: 199497232874
Vaccinia virion surface polypeptide Ag35 expressed from a baculovirus vector is targeted to analogous poxvirus and insect virus components
1994

11/6/27
0008918125 BIOSIS NO.: 199396082541
Identification and mapping of the gene encoding the glycoprotein complex gp82-gp105 of human herpesvirus 6 and mapping of the neutralizing epitope recognized by monoclonal antibodies
1993

11/6/28
0008790101 BIOSIS NO.: 199395092367
Immunocytochemical characterization of p24, a baculovirus capsid-associated protein
1993

11/6/29
0008766692 BIOSIS NO.: 199395068958
A baculovirus encoded 16-kDa glycoprotein localizes near the nuclear membrane of infected cells
1993

11/6/30
0008393681 BIOSIS NO.: 199294095522
EXPRESSION OF FELINE LEUKAEMIA VIRUS GP85 AND GAG PROTEINS AND ASSEMBLY INTO VIRUS-LIKE PARTICLES USING THE BACULOVIRUS EXPRESSION VECTOR SYSTEM
1992

11/6/31
0007152249 BIOSIS NO.: 199089070140
IDENTIFICATION OF A VIRAL GENE ENCODING A UBIQUITIN-LIKE PROTEIN
1990

11/6/32
0007136792 BIOSIS NO.: 199089054683
SYNTHESIS OF THE MEMBRANE FUSION AND HEMAGGLUTININ PROTEINS OF MEASLES VIRUS USING A NOVEL BACULOVIRUS VECTOR CONTAINING THE BETA GALACTOSIDASE GENE
1990

11/6/33
0007102830 BIOSIS NO.: 199089020721
CONSTRUCTION AND ANALYSIS OF AN AUTOGRAPHA-CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS MUTANT LACKING THE POLYHEDRAL ENVELOPE
1989

11/6/34
0006733859 BIOSIS NO.: 198988048974
LOCATION SEQUENCE TRANSCRIPTIONAL MAPPING AND TEMPORAL EXPRESSION OF THE GP64 ENVELOPE GLYCOPROTEIN GENE OF THE ORGYIA-PSEUDOTSUGATA MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS
1989

11/6/35
0005163378 BIOSIS NO.: 198682009765
PROPERTIES OF A NOVEL DNA VIRUS FROM THE TSETSE FLY GLOSSINA-PALLIDIPES
1986
? t s11/7/10 15 16 17 18 20 25 26

11/7/10
DIALOG(R)File 5:Biosis Previews(R)
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0011916443 BIOSIS NO.: 199900176103
Development of a Western blot assay for detection of bovine immunodeficiency-like virus using capsid and transmembrane envelope proteins expressed from recombinant baculovirus
AUTHOR: Abed Y (Reprint); St-Laurent G; Zhang H; Jacobs R M; Archambault D (Reprint)
AUTHOR ADDRESS: Departement des Sciences Biologiques, University du Quebec a Montreal, Succur-sale Centre-Ville, Montreal, PQ, H3C 3P8, Canada** Canada
JOURNAL: Clinical and Diagnostic Laboratory Immunology 6 (2): p168-172 March, 1999 1999
MEDIUM: print
ISSN: 1071-412X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A 120-amino-acid polypeptide selected from the transmembrane protein region (tTM) and the major capsid protein p26 of bovine immunodeficiency-like virus (BIV) were expressed as fusion proteins from recombinant baculoviruses. The antigenic reactivity of both recombinant fusion proteins was confirmed by Western blot with bovine and rabbit antisera to BIV. BIV-negative bovine sera and animal sera positive for bovine syncytial virus and bovine leukemia virus failed to recognize the recombinant fusion proteins, thereby showing the specificity of the BIV Western blot. One hundred and five bovine serum samples were tested for the presence of anti-BIV antibodies by the recombinant protein-based Western blot and a reference Western blot assay using cell culture-derived virions as test antigens. There was a 100% concordance when the p26 fusion protein was used in the Western blot. However, the Western blot using the tTM fusion protein as its test antigen identified four BIV-positive bovine sera which had tested negative in both the p26 recombinant-protein-based and the reference Western blot assays. This resulted in the lower concordance of 96.2% between the tTM-protein-based and reference Western blot assays. The results of this study showed that the recombinant p26 and tTM proteins can be used as test antigens for the serodetection of BIV-infection in animals.

11/7/15
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0011216044 BIOSIS NO.: 199800010291

Analysis of a recombinant dengue-2 virus-dengue-3 virus hybrid envelope protein expressed in a secretory baculovirus system
AUTHOR: Bielefeldt-Ohmann Helle (Reprint); Beasley David W C; Fitzpatrick David R; Aaskov John G
AUTHOR ADDRESS: Centre Molecular Biotechnol., Sch. Life Sci., Queensland Univ. Technol., GPO Box 2434, Brisbane, Australia**Australia
JOURNAL: Journal of General Virology 78 (11): p2723-2733 Nov., 1997 1997
MEDIUM: print
ISSN: 0022-1317
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: In a step towards a tetravalent dengue virus subunit vaccine which is economical to produce, highly immunogenic and stable, a hybrid dengue virus envelope (E) protein molecule has been constructed. It consists of 36 amino acids from the membrane protein, the N-terminal 288 amino acids of the dengue-2 virus E protein plus amino acids 289-424 of the dengue-3 virus E protein. It has been engineered for secretory expression by fusion to a mellitin secretory signal sequence and truncation of the hydrophobic transmembrane segment. Using the baculovirus expression system and serum-free conditions, more than 95% of recombinant dengue-2 virus-dengue-3 virus hybrid E protein (rD2D3E) was secreted into the cell culture supernatant in a stable form with multiple features indicative of preserved conformation. The hybrid molecule reacted with a panel of dengue virus- and flavivirus-specific MAbs which recognize linear or conformational epitopes on dengue virions. Human dengue virus-specific antisera also reacted with the protein. The hybrid rD2D3E protein was able to inhibit the in vitro binding of dengue-2 and dengue-3 viruses to human myelomonocytic cells, suggesting that the receptor-binding epitope(s) was preserved. Adjuvant-free immunization with the hybrid protein induced an antibody response to both dengue-2 and dengue-3 virus in outbred mice, comparable in strength to that of individual rD2E and rD3E proteins. Notably, these antibody responses were primarily of the IgG2a and IgG2b isotype. A strong dengue virus cross-reactive T cell response was also induced in the mice, suggesting that dengue virus hybrid E proteins could form the basis of an efficacious multivalent dengue virus vaccine.

11/7/16
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0011152350 BIOSIS NO.: 199799786410
Baculoviral display of the green fluorescent protein and rubella virus envelope proteins
AUTHOR: Mottershead David; Van Der Linden Inge; Von Bonsdorff Carl-Henrik; Keinanen Kari; Oker-Blom Christian (Reprint)
AUTHOR ADDRESS: VTT Biotechnol. Food Res., Espoo, Finland**Finland
JOURNAL: Biochemical and Biophysical Research Communications 238 (3): p 717-722 1997 1997
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The ability to display heterologous proteins and peptides on the surface of different types of bacteriophage has proven extremely useful in protein structure/function studies. To display such proteins in a eucaryotic environment, we have produced a vector allowing for fusion of proteins to the amino-terminus of the Autographa californica nuclear polyhedrosis virus (AcNPV) major envelope glycoprotein, gp64. Such fusion proteins incorporate into the baculoviral virion and display the FLAG

epitope tag. We have further produced recombinant baculoviruses displaying the green fluorescent protein (GFP) and the rubella virus envelope proteins, E1 and E2. The incorporation of the GFPgp64, E1gp64, and E2gp64 fusion proteins into the baculovirus particle was demonstrated by western blot analysis of purified budded virus. This is the first report of the display of the GFP protein or the individual rubella virus spike proteins on the surface of an enveloped virus. Such a eucaryotic viral display system may be useful for the display of proteins dependent on glycosylation for activity and for targeting of recombinant baculoviruses to novel host cell types as a gene transfer vehicle.

11/7/17
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0011032967 BIOSIS NO.: 199799667027
Varicella-zoster virus glycoproteins E and I expressed in insect cells form a heterodimer that requires the N-terminal domain of glycoprotein I
AUTHOR: Kimura Hiroshi; Straus Stephen E; Williams Richard K (Reprint)
AUTHOR ADDRESS: National Inst. Health, 9000 Rockville Pike, Building 10, Room 11N228, Bethesda, MD 20892, USA**USA
JOURNAL: Virology 233 (2): p382-391 1997 1997
ISSN: 0042-6822
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Varicella-zoster virus (VZV) glycoproteins E and I (gE and gI), which are major components of the virion envelope, form a noncovalently linked complex. To understand their properties and functions, we expressed and purified soluble forms of gE and gI in the baculovirus system. Extracellular domains of gE and gI were cloned into baculoviruses, using either native or insect-derived signal peptides. Each recombinant virus yielded soluble protein in culture medium although a higher level of secretion was achieved with insect-derived signal peptides in recombinant gE baculoviruses. A soluble gE-gI complex was formed by co-infecting insect cells with recombinant gE and gI baculoviruses and detected by immunoprecipitation followed by Western blotting analyses. By gel filtration and cross-linking studies, we showed that the VZV gE-gI complex expressed in insect cells is a heterodimer. Interestingly, two recombinant gI proteins in which signal peptides were replaced with insect-derived signal peptides did not associate with gE. Amino-terminal sequencing and site-specific mutational studies showed that the replacement of only the signal peptides did not prevent complex formation but alterations in the processed amino-terminus of gI abrogated its ability to complex with gE. These findings indicate that the mature amino-terminus of gI is required for gE-gI complex formation by the external domains of VZV gE and gI.

11/7/18
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0010986468 BIOSIS NO.: 199799620528
Characterization of a novel third member of the human cytomegalovirus glycoprotein H-glycoprotein L complex
AUTHOR: Huber Mary T; Compton Teresa (Reprint)
AUTHOR ADDRESS: Dep. Med. Microbiol. Immunol., Univ. Wisconsin-Madison Med. Sch., 1300 University Ave., MS493, Madison, WI 53706-1532, USA**USA
JOURNAL: Journal of Virology 71 (7): p5391-5398 1997 1997
ISSN: 0022-538X
DOCUMENT TYPE: Article

RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: A prerequisite for understanding the molecular function of the human cytomegalovirus (HCMV) gH (UL75)-gL (UL115) complex is a detailed knowledge of the structure of this complex in its functional form, as it is present in mature virions. The gH protein is known to be a component of a 240-kDa envelope complex designated as gCIII (D. R. Gretch, B. Kari, L. Rasmussen, R. C. Gehrz, and M. F. Stinski, J. Virol. 62:875-881, 1988). However, the exact composition of the gCIII complex remains unknown. In this report, we attempted reconstitution of the gCIII complex by coexpression of gH and gL in the baculovirus expression system. Formation of recombinant gH-gL complexes of approximately 115 kDa was demonstrated; however, no higher-molecular-mass (apprx 240-kDa) recombinant gH-gL complexes were detected, suggesting that the presence of gH and gL alone is not sufficient for reconstitution of the gCIII complex. To identify other mammalian and/or HCMV factors which may be necessary for gCIII formation, immunoprecipitates of gH and gL from HCMV-infected fibroblasts and purified HCMV virions were examined. This analysis did reveal a number of coprecipitating proteins which associate either transiently or integrally with gH and gL. One coprecipitating protein of 145 kDa was shown to be an integral component of gCIII, along with gH and gL. Characterization of the 145-kDa protein demonstrates that it is structurally and antigenically unrelated to gH and gL and that it appears to be virally encoded. Together, these data indicate that the 145-kDa protein is a third novel component of the mature HCMV gH-gL complex.

11/7/20
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0010655743 BIOSIS NO.: 199799289803
Identification of the human cytomegalovirus G protein-coupled receptor homologue encoded by UL33 in infected cells and enveloped virus particles
AUTHOR: Margulies Barry J; Browne Helena; Gibson Wade (Reprint)
AUTHOR ADDRESS: Virol. Lab., Dep. Pharm. Mol. Sci., Johns Hopkins Univ. Sch. Med., Baltimore, MD 21205, USA**USA
JOURNAL: Virology 225 (1): p111-125 1996 1996
ISSN: 0042-6822
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Human cytomegalovirus (HCMV), strain AD169, contains four genes (US27, US28, UL33, and UL78) that encode putative homologues of cellular G protein-coupled receptors (GCRs). GCRs transduce extracellular signals to alter intracellular processes, and there is evidence that HCMV may elicit such changes at early times following infection. The US27, US28, and UL33 genes are transcribed during infection, and the US28 gene product has been found to be a functional receptor for the beta-chemokine class of immune modulators. The US27, UL33, and UL78 gene products have not been described and we have concentrated on identifying the UL33 protein because it is the most highly conserved of the GCR homologues among the human beta and gamma herpesviruses. We report here cloning UL33 into a recombinant baculovirus (rBV) and expressing it in insect cells; constructing a mutant HCMV with a disrupted UL33 gene; and identifying the UL33 protein in HCMV-infected cells and virus particles. Our results demonstrate that the UL33 protein (i) is expressed as a apprxeq 36-kDa, heat-aggregatable protein in rBV-infected cells, (ii) is modified heterogeneously by asparagine-linked glycosylation and expressed as a gtoreq 58-kDa glycoprotein that is present in the region of the cytoplasmic inclusions in HCMV-infected fibroblasts, (iii) is present in

virions and two other enveloped virus particles, and (iv) is not essential for growth of HCMV in human foreskin fibroblast cultures.

11/7/25
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0009297501 BIOSIS NO.: 199497318786
Immunization of monkeys with baculovirus-dengue type-4 recombinants containing envelope and nonstructural proteins: Evidence of priming and partial protection
AUTHOR: Eckels Kenneth H (Reprint); Dubois Doria R (Reprint); Summers Peter L (Reprint); Schlesinger Jacob J; Shelly Mark; Cohen Sara; Zhang Yi-Ming; Lai Ching-Ju; Kurane Ichiro; Rothman Allan; Hasty Sherman; Howard Billy (Reprint)
AUTHOR ADDRESS: Dep. Biol. Res., Walter Reed Army Inst. Res., Washington, DC 20307-5100, USA**USA
JOURNAL: American Journal of Tropical Medicine and Hygiene 50 (4): p 472-478 1994 1994
ISSN: 0002-9637
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Groups of rhesus monkeys were immunized with baculovirus-dengue type-4 (DEN-4) recombinant-infected cell extracts. One recombinant contained all of the DEN-4 structural proteins and two nonstructural (NS) proteins (G-M-E-NS1-NS2a), while the other was a fusion protein containing a portion of the respiratory syncytial virus G glycoprotein and DEN-4 envelope glycoprotein (RSVG-E). Both preparations were immunogenic; all monkeys receiving either immunogen responded with the production of anti-virion antibodies in enzyme immunoassays. All except one monkey receiving the recombinant b(C-M-E-NS1-NS2a) made antibodies to NS1. One monkey that received b(RSVG-E) showed the production of low levels of neutralizing antibodies. Following challenge with unmodified DEN-4 virus, seven of nine monkeys in the immunized group became infected and were viremic for a mean of 4.1 days. The control, sham-inoculated monkeys were also viremic; the mean number of days of viremia in this group was 4.7 days. The remaining monkeys in the immunized group (n = 7), although not protected, had evidence of priming. Hemagglutination inhibition antibody responses following challenge indicated an anamnestic response in this group of animals. Based on these results, it was concluded that future immunization schedules should be altered to optimize immune responses and that immunization with more potent and purified immunogens would probably result in higher seroconversion rates and antibody levels in monkeys.

11/7/26
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0009211589 BIOSIS NO.: 199497232874
Vaccinia virion surface polypeptide Ag35 expressed from a baculovirus vector is targeted to analogous poxvirus and insect virus components
AUTHOR: Mohandas Anjani R; Dekaban Gregory A; Dales Samuel (Reprint)
AUTHOR ADDRESS: Cytobiol. Group, Dep. Microbiol. Immunol., John P. Robarts Res. Inst., Univ. West. Ont., London, ON N6A 5C1, Canada**Canada
JOURNAL: Virology 200 (1): p207-219 1994 1994
ISSN: 0042-6822
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Polypeptide Ag35, a major early component of the vaccinia surface, is integrated into the formative viral lipoprotein tegument. To ascertain whether positioning of Ag35 is due to its general affinity for newly assembled viral membranes we created a recombinant A12 vector to express the vaccinia protein. The baculovirus system was chosen because intranuclear virions of this agent are likewise enclosed inside newly formed envelopes. Comparable infections of two insect cell lines established that more abundant synthesis occurred in High Five (H5) than in SF9 cells. We, therefore, used H5 cells for most experiments reported here. Combined analyses by PAGE, Western blotting, and immunocytology, using light and electron microscopy, revealed a dissemination of Ag35 throughout the cell. Higher concentrations were evident at the cell surface, nuclear perimeter, and within intranuclear virogenic stroma. The association with the virogenic stroma was of specific interest with respect to vaccinia development because it showed a similarity in the targeting of Ag35 toward intranuclear DNA-protein foci of baculovirus which are analogous to the vaccinia-specified cytoplasmic "factories." A further remarkable analogy concerns association of Ag35 with intranuclear baculovirus envelopes, revealing a propensity of Ag35 for nascent viral lipoprotein membranes.

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? s present?
   S12 1245951  PRESENT?
? ds

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S1     13528   BACULO? OR POLYHEDROS? OR NPV
S2     32976   ENVELOPE OR ENVELOPED
S3       625   S1 AND S2
S4    899003   PY>2001
S5       576   S3 NOT S4
S6      1223   PSEUDOTYP?
S7         3   S5 AND S6
S8     15465   VIRION OR VIRIONS
S9       165   S5 AND S8
S10    327519   RECOMBINANT? OR VECTOR?
S11        35   S9 AND S10
S12   1245951   PRESENT?
? s s1 and s12 not s4
        13528  S1
      1245951  S12
       899003  S4
   S13    1364  S1 AND S12 NOT S4
? s s10 and s13
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         1364  S13
   S14     684  S10 AND S13
? s display?
   S15  153784  DISPLAY?
? s s15 and s1 not s4
       153784  S15
        13528  S1
       899003  S4
   S16     296  S15 AND S1 NOT S4
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 16/6/1
0013905949   BIOSIS NO.: 200200499460
Stereoselectivity of CYP3A4 inhibition and antifungal activity of the
 enantiomers of ketoconazole
2001


 16/6/2
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0013678289 BIOSIS NO.: 200200271800
Ectopic expression of BEAF32A in the Drosophila eye imaginal disc inhibits differentiation of photoreceptor cells and induces apoptosis
2001

16/6/3
0013643410 BIOSIS NO.: 200200236921
Pertinence of kappa and lambda recombinant antibodies directed against thyroid peroxidase in thyroid autoimmune disease
2001

16/6/4
0013575798 BIOSIS NO.: 200200169309
Substrate specificities of recombinant mannan-binding lectin-associated serine proteases-1 and -2
2001

16/6/5
0013556726 BIOSIS NO.: 200200150237
Gbetagamma affinity for bovine rhodopsin is determined by the carboxyl-terminal sequences of the gamma subunit
2001

16/6/6
0013475006 BIOSIS NO.: 200200068517
Caspase-9 activation results in downstream caspase-8 activation and Bid cleavage in 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced Parkinson's disease
2001

16/6/7
0013433590 BIOSIS NO.: 200200027101
The chimeric mouse-human anti-CD4 Fab 13B8.2 expressed in baculovirus inhibits both antigen presentation and HIV-1 promoter activation
2001

16/6/8
0013417223 BIOSIS NO.: 200200010734
Taxol biosynthesis: Taxane 13alpha-hydroxylase is a cytochrome P450-dependent monooxygenase
2001

16/6/9
0013396231 BIOSIS NO.: 200100568070
p53 enhances the fidelity of DNA synthesis by human immunodeficiency virus type 1 reverse transcriptase
2001

16/6/10
0013395847 BIOSIS NO.: 200100567686
Cloning and expression of the envelope glycoprotein gD gene of pseudorabies virus Ea strain
2001
? ds

Set Items Description

S1 13528 BACULO? OR POLYHEDROS? OR NPV
S2 32976 ENVELOPE OR ENVELOPED
S3 625 S1 AND S2
S4 899003 PY>2001
S5 576 S3 NOT S4
S6 1223 PSEUDOTYP?
S7 3 S5 AND S6
S8 15465 VIRION OR VIRIONS
S9 165 S5 AND S8
S10 327519 RECOMBINANT? OR VECTOR?
S11 35 S9 AND S10
S12 1245951 PRESENT?
S13 1364 S1 AND S12 NOT S4
S14 684 S10 AND S13
S15 153784 DISPLAY?
S16 296 S15 AND S1 NOT S4
? s display?(3n)s1
153784 DISPLAY?
13528 S1
S17 28 DISPLAY?(3N)S1
? s s17 not s4
28 S17
899003 S4
S18 22 S17 NOT S4
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18/6/1
0013177570 BIOSIS NO.: 200100349409
Specific binding of baculoviruses displaying gp64 fusion proteins to mammalian cells
2001

18/6/2
0013106278 BIOSIS NO.: 200100278117
Developments in the use of baculoviruses for the surface display of complex eukaryotic proteins
2001

18/6/3
0012991963 BIOSIS NO.: 200100163802
A novel patatin-like gene stimulated by drought stress encodes a galactolipid acyl hydrolase
2001

18/6/4
0012775641 BIOSIS NO.: 200000493954
Presentation of antigenic sites from foot-and-mouth disease virus on the surface of baculovirus and in the membrane of infected cells
2000

18/6/5
0012699190 BIOSIS NO.: 200000417503
Baculoviral display of functional scFv and synthetic IgG-binding domains
2000

18/6/6
0012641431 BIOSIS NO.: 200000359744
Expanding baculovirus surface display: Modification of the native coat protein gp64 of Autographa californica NPV

2000

18/6/7
0012477815 BIOSIS NO.: 200000196128
Production of monoclonal antibodies using recombinant baculovirus displaying gp64-fusion proteins
2000

18/6/8
0012459464 BIOSIS NO.: 200000177777
The authentic sequence of rotavirus SA11 nonstructural protein NSP4
2000

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0012222492 BIOSIS NO.: 199900482152
Two invariant tryptophans on the alpha1 subunit define domains necessary for GABAA receptor assembly
1999

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0012109297 BIOSIS NO.: 199900368957
Antigen-specific cytotoxicity and cell number of adoptively transferred T cells are efficiently maintained in vivo by re-stimulation with an antigen/interleukin-2 fusion protein
1999

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0011951202 BIOSIS NO.: 199900210862
The U69 gene of human herpesvirus 6 encodes a protein kinase which can confer ganciclovir sensitivity to baculoviruses
1999

18/6/12
0011894511 BIOSIS NO.: 199900154171
In vivo and in vitro analysis of baculovirus ie-2 mutants
1999

18/6/13
0011826494 BIOSIS NO.: 199900086154
Baculovirus p33 binds human p53 and enhances p53-mediated apoptosis
1999

18/6/14
0011456927 BIOSIS NO.: 199800251174
Baculovirus surface display: Construction and screening of a eukaryotic epitope library
1998

18/6/15
0011152350 BIOSIS NO.: 199799786410
Baculoviral display of the green fluorescent protein and rubella virus envelope proteins
1997

18/6/16
0010959501 BIOSIS NO.: 199799593561
Competitive interactions between cytochromes P450 2A6 and 2E1 for NADPH-cytochrome P450 oxidoreductase in the microsomal membranes produced by a baculovirus expression system
1997

18/6/17
0010422978 BIOSIS NO.: 199699057038
Human p53 expressed in baculovirus-infected Sf9 cells displays a two-dimensional isoform pattern identical to wild-type p53 from human cells
1996

18/6/18
0008847617 BIOSIS NO.: 199396012033
Crystallization of virus like particles assembled from flock house virus coat protein expressed in a baculovirus system
1993

18/6/19
0008270165 BIOSIS NO.: 199293113056
BACULOVIRUS-MEDIATED EXPRESSION AND FUNCTIONAL CHARACTERIZATION OF HUMAN NADPH-P450 OXIDOREDUCTASE
1992

18/6/20
0003005193 BIOSIS NO.: 198070036680
ELECTRON MICROSCOPIC IMMUNO CYTOCHEMICAL INVESTIGATION ON POST NATAL DEVELOPMENT OF THE VASOPRESSIN SYSTEM IN THE RAT
1980

18/6/21
0002190572 BIOSIS NO.: 197764038928
EFFECT OF LARVAL MATURATION ON MORTALITY INDUCED BY NUCLEAR POLYHEDROSIS AND GRANULOSIS VIRUS INFECTIONS OF HELIOTHIS-ARMIGERA
1977

18/6/22
0000943434 BIOSIS NO.: 197253069954
STRAINS OF NUCLEAR POLYHEDROSIS VIRUSES OF DISPLAYING DIFFERENT INCLUSION BODY SHAPES
1970
? t s18/7/1 2 4-7 14 15 19

18/7/1
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0013177570 BIOSIS NO.: 200100349409
Specific binding of baculoviruses displaying gp64 fusion proteins to mammalian cells
AUTHOR: Ojala Kirsi; Mottershead David G; Suokko Aki; Oker-Blom Christian (Reprint)
AUTHOR ADDRESS: Department of Biological and Environmental Science, Division of Biotechnology, University of Jyvaskyla, FIN-40351, Jyvaskyla, Finland**Finland
JOURNAL: Biochemical and Biophysical Research Communications 284 (3): p

777-784 June 15, 2001 2001
MEDIUM: print
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Viral vectors displaying specific ligand binding moieties have raised an increasing interest in the area of targeted gene therapy. In this report, we describe baculovirus vectors displaying either a functional single chain antibody fragment (scFv) specific for the carcinoembryonic antigen (CEA) or the synthetic IgG binding domains (ZZ) derived from protein A of Staphylococcus aureus. In addition, the vectors were engineered to incorporate a reporter gene encoding the enhanced green fluorescent protein (EGFP) under the transcriptional regulation of the cytomegalovirus (CMV) IE promoter. Display of the targeting moieties on the viral surface was achieved through fusion to the N-terminus of gp64, the major envelope protein of the Autographa californica nuclear polyhedrosis virus (AcNPV). Specific binding of the gp64 fusion viruses to mammalian target cells was demonstrated by using monoclonal anti-gp64 antibodies followed by fluorescence and/or confocal microscopy. The anti-CEA scFv displaying baculovirus was shown to bind specifically to CEA expressing cells (PC-3). Similarly, the virus displaying the ZZ domains of protein A was targeted to BHK cells via binding of an appropriate IgG antibody. In all cases, the reporter gene was expressed in the transduced mammalian cells as shown by fluorescence microscopy and flow cytometric analyses.

18/7/2
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0013106278 BIOSIS NO.: 200100278117
Developments in the use of baculoviruses for the surface display of complex eukaryotic proteins
AUTHOR: Grabherr Reingard (Reprint); Ernst Wolfgang (Reprint); Oker-Blom Christian; Jones Ian
AUTHOR ADDRESS: University of Agriculture, Institute of Applied Microbiology, Muthgasse 18, A-1190, Vienna, Austria**Austria
JOURNAL: Trends in Biotechnology 19 (6): p231-236 June, 2001 2001
MEDIUM: print
ISSN: 0167-7799
DOCUMENT TYPE: Article; Literature Review
RECORD TYPE: Citation
LANGUAGE: English

18/7/4
DIALOG(R)File 5:Biosis Previews(R)
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0012775641 BIOSIS NO.: 200000493954
Presentation of antigenic sites from foot-and-mouth disease virus on the surface of baculovirus and in the membrane of infected cells
AUTHOR: Tami C (Reprint); Farber M; Palma E L; Taboga O
AUTHOR ADDRESS: Instituto de Biotecnologia, CICVyA, INTA, Castelar, 1712, Buenos Aires, Argentina**Argentina
JOURNAL: Archives of Virology 145 (9): p1815-1828 2000 2000
MEDIUM: print
ISSN: 0304-8608
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We describe the construction of recombinant baculoviruses displaying on their surface and in the membrane of infected cells the small, immunodominant antigenic site (site A) or the large polyprotein (P1) coding for the four structural proteins of foot-and-mouth disease virus (FMDV). The coding sequences were inserted in the amino-terminus of gp64, the major glycoprotein of the baculovirus Autographa californica nuclear polyhedrosis virus (AcNPV). Following infection of insect cells with the recombinant baculoviruses, the cellular localization of the chimaeric proteins as well as their presence in the surface of extracellular viruses was assessed by immunofluorescence microscopy and Western blot. The antigenicity of the recombinant viruses was studied by competitive ELISAs, which showed that although both recombinant viruses were able to compete with FMDV-specific monoclonal antibodies (MAbs), their patterns of reactivity were different. The results suggest that this eukaryotic display system could be an alternative method of presentation of foreign antigens in a multimeric form as a new approach to biosynthetic vaccines.

18/7/5
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0012699190 BIOSIS NO.: 200000417503
Baculoviral display of functional scFv and synthetic IgG-binding domains
AUTHOR: Mottershead David G; Alfthan Kaija; Ojala Kirsi; Takkinen Kristiina ; Oker-Blom Christian (Reprint)
AUTHOR ADDRESS: Department of Biological and Environmental Science, University of Jyvaskyla, FIN-40351, Jyvaskyla, Finland**Finland
JOURNAL: Biochemical and Biophysical Research Communications 275 (1): p 84-90 August 18, 2000 2000
MEDIUM: print
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Viral vectors displaying specific ligand binding moities such as scFv fragments or intact antibodies hold promise for the development of targeted gene therapy vectors. In this report we describe baculoviral vectors displaying either functional scFv fragments or the synthetic Z/ZZ IgG binding domain derived from protein A. Display on the baculovirus surface was achieved via fusion of the scFv fragment or Z/ZZ domain to the N-terminus of gp64, the major envelope protein of the Autographa californica nuclear polyhedrosis virus, AcNPV. As examples of scFv fragments we have used a murine scFv specific for the hapten 2-phenyloxazolone and a human scFv specific for carcinoembryonic antigen. In principle, the Z/ZZ IgG binding domain displaying baculoviruses could be targeted to specific cell types via the binding of an appropriate antibody. We envisage applications for scFv and Z/ZZ domain displaying baculoviral vectors in the gene therapy field.

18/7/6
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0012641431 BIOSIS NO.: 200000359744
Expanding baculovirus surface display: Modification of the native coat protein gp64 of Autographa californica NPV
AUTHOR: Ernst Wolfgang J; Spenger Alexandra; Toellner Lars; Katinger Hermann; Grabherr Reingard M (Reprint)
AUTHOR ADDRESS: Institute of Applied Microbiology, University of

Agriculture, Muthgasse 18, A-1190, Vienna, Austria**Austria
JOURNAL: European Journal of Biochemistry 267 (13): p4033-4039 July, 2000
2000
MEDIUM: print
ISSN: 0014-2956
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: To create a tool for eukaryotic surface display, this approach is aimed at demonstrating a direct modification of the native envelope protein gp64 of Autographa californica NPV without disturbing viral infectivity. Short affinity-tag peptides, the biotin mimic streptagII, and the gp41 amino-acid motif ELDKWA of HIV-1, specific for the human monoclonal antibody 2F5, were engineered into the baculovirus major coat protein gp64 and presented on the viral surface. Two different streptag peptides were inserted at the naturally occurring NotI site at amino-acid 278 of gp64. Additionally, the ten-amino-acid peptide GG-ELDKWA-GG, containing the epitope of mAb 2F5, was introduced into gp64 envelope protein at the same position. In all cases we were able to propagate viable virus-achieving infections titers in the range of wild-type AcMNPV. Streptag and ELDKWA-epitope surface localization on purified virus particles was demonstrated by flow cytometry and Western blot analysis. We could also show selective retention of mutant viruses by specific interaction between chimeric virions and their target counterparts, recognizing the epitope or the streptag peptide in the viral envelope. These data provide evidence that altering the surface properties of the baculovirus virion could be of value in improving baculovirus display technology and developing new applications.

18/7/7
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0012477815 BIOSIS NO.: 200000196128
Production of monoclonal antibodies using recombinant baculovirus displaying gp64-fusion proteins
AUTHOR: Lindley Kathryn M (Reprint); Su Jui-Lan; Hodges Paula K; Wisely G Bruce; Bledsoe Randy K; Condreay J Patrick; Winegar Deborah A; Hutchins Jeff T; Kost Thomas A
AUTHOR ADDRESS: Department of Molecular Sciences, Glaxo Wellcome Research and Development, 5 Moore Drive, Research Triangle Park, NC, 27709, USA** USA
JOURNAL: Journal of Immunological Methods 234 (1-2): p123-135 Feb. 3, 2000
2000
MEDIUM: print
ISSN: 0022-1759
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Generation of protein immunogens is often a rate-limiting step in the production of monoclonal antibodies (Mabs). Expressing domains of proteins as fusions to the baculovirus surface glycoprotein gp64 displays foreign proteins on the surface of the virion. Antigen is produced by inserting a gene fragment in-frame between the signal sequence and the mature protein domain of the gp64 nucleotide sequence. This method allows immunization with whole virus, eliminating the need for purification of target antigens. Affinity-matured Mabs to the human nuclear receptors LXRbeta and FXR have been produced using baculovirus particles displaying gp64/nuclear receptor fusion proteins as the immunizing agent. Immunizations were performed directly with pelleted virus using the Repetitive Immunization Multiple Sites (RIMMS) immunization strategy for

rapid Mab production. All Mabs were identified using insect cells infected with the immunizing virus. Characterization of these antibodies shows them to be class-switched and specific for LXRbeta or FXR. Additionally, high affinity antibodies that recognize gp64 and neutralize baculovirus infection of insect cells were isolated. Use of the recombinant baculovirus gp64 display system makes possible the production of Mabs once a partial DNA sequence is known. This allows the generation of antibodies prior to the isolation of purified protein, in turn providing antibodies to facilitate purification, characterization and immunolocalization of proteins.

18/7/14
DIALOG(R)File 5:Biosis Previews(R)
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0011456927 BIOSIS NO.: 199800251174
Baculovirus surface display: Construction and screening of a eukaryotic epitope library
AUTHOR: Ernst Wolfgang; Grabherr Reinhard (Reprint); Wegner Daniela; Borth Nicole; Grassauer Andreas; Katinger Hermann
AUTHOR ADDRESS: Inst. Applied Microbiol., Univ. Agric., Muthgasse 18, A-1190 Vienna, Austria**Austria
JOURNAL: Nucleic Acids Research 26 (7): p1718-1723 April 1, 1998 1998
MEDIUM: print
ISSN: 0305-1048
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The baculovirus expression system was utilized to serve as a tool for ligand selection, demonstrating the applicability of the system to the generation and screening of eukaryotic expression libraries. The HIV-1-gp41 epitope 'ELDKWA', specific for the neutralizing human mAb 2F5, was inserted into the antigenic site B of influenza virus hemagglutinin and expressed on the surface of baculovirus infected insect cells. In order to improve the antigenicity of the epitope within the hemagglutinin, and therefore enhance the specific binding of 2F5, we inserted three additional, random amino acids adjacent to the epitope. This pool of hemagglutinin genes was directly cloned into the baculovirus Ac-omega. To identify distinct proteins displayed on the cellular surface, we developed a screening protocol to select for specific binding capacity of individual viral clones. Using fluorescence activated cell sorting (FACS) we isolated a baculovirus clone displaying the epitope with markedly increased binding capacity out of a pool of 8000 variants in only one sorting step. Binding properties of the identified ligand were examined by FACS performing a competition assay.

18/7/15
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0011152350 BIOSIS NO.: 199799786410
Baculoviral display of the green fluorescent protein and rubella virus envelope proteins
AUTHOR: Mottershead David; Van Der Linden Inge; Von Bonsdorff Carl-Henrik; Keinanen Kari; Oker-Blom Christian (Reprint)
AUTHOR ADDRESS: VTT Biotechnol. Food Res., Espoo, Finland**Finland
JOURNAL: Biochemical and Biophysical Research Communications 238 (3): p 717-722 1997 1997
ISSN: 0006-291X
DOCUMENT TYPE: Article
RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: The ability to display heterologous proteins and peptides on the surface of different types of bacteriophage has proven extremely useful in protein structure/function studies. To display such proteins in a eucaryotic environment, we have produced a vector allowing for fusion of proteins to the amino-terminus of the Autographa californica nuclear polyhedrosis virus (AcNPV) major envelope glycoprotein, gp64. Such fusion proteins incorporate into the baculoviral virion and display the FLAG epitope tag. We have further produced recombinant baculoviruses displaying the green fluorescent protein (GFP) and the rubella virus envelope proteins, E1 and E2. The incorporation of the GFPgp64, E1gp64, and E2gp64 fusion proteins into the baculovirus particle was demonstrated by western blot analysis of purified budded virus. This is the first report of the display of the GFP protein or the individual rubella virus spike proteins on the surface of an enveloped virus. Such a eucaryotic viral display system may be useful for the display of proteins dependent on glycosylation for activity and for targeting of recombinant baculoviruses to novel host cell types as a gene transfer vehicle.

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BACULOVIRUS-MEDIATED EXPRESSION AND FUNCTIONAL CHARACTERIZATION OF HUMAN NADPH-P450 OXIDOREDUCTASE
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ABSTRACT: Human NADPH-P450 oxidoreductase (OR) is an intrinsically membrane-bound flavoprotein that serves to transfer electrons from NADPH to cytochrome P450. OR is also involved in the metabolic activation of chemotherapeutic alkylating agents. The human OR cDNA was engineered into baculovirus and the recombinant virus was used to infect Spodoptera frugiperda (Sf9) cells. Approximately 3.3% of total protein of infected cells was human OR. The enzyme was purified by ion exchange and affinity chromatography to a specific activity of 20 units/mg protein. Baculovirus-expressed OR displayed an absolute spectrum typical of the protein purified from tissue sources. The purified enzyme was able to support P450 activity in a reconstituted lipid vesicle system where maximal P450 activity was achieved at an OR/P450 ratio of 2. When recombinant OR and P450 DNA-containing baculoviruses were used to coinfect SF9 cells, the OR/P450 ratio needed to achieve half maximal P450 catalytic activity was less than 0.5. These studies demonstrate the utility of baculovirus to analyze the functional and structural relationship of OR and P450.
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Set	Items	Description
S1	13528	BACULO? OR POLYHEDROS? OR NPV
S2	32976	ENVELOPE OR ENVELOPED
S3	625	S1 AND S2
S4	899003	PY>2001
S5	576	S3 NOT S4
S6	1223	PSEUDOTYP?

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S7          3   S5 AND S6
S8      15465   VIRION OR VIRIONS
S9        165   S5 AND S8
S10    327519   RECOMBINANT? OR VECTOR?
S11        35   S9 AND S10
S12   1245951   PRESENT?
S13      1364   S1 AND S12 NOT S4
S14       684   S10 AND S13
S15    153784   DISPLAY?
S16       296   S15 AND S1 NOT S4
S17        28   DISPLAY?(3N)S1
S18        22   S17 NOT S4
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